

Why Don't We Know the Prevalence of GDM?

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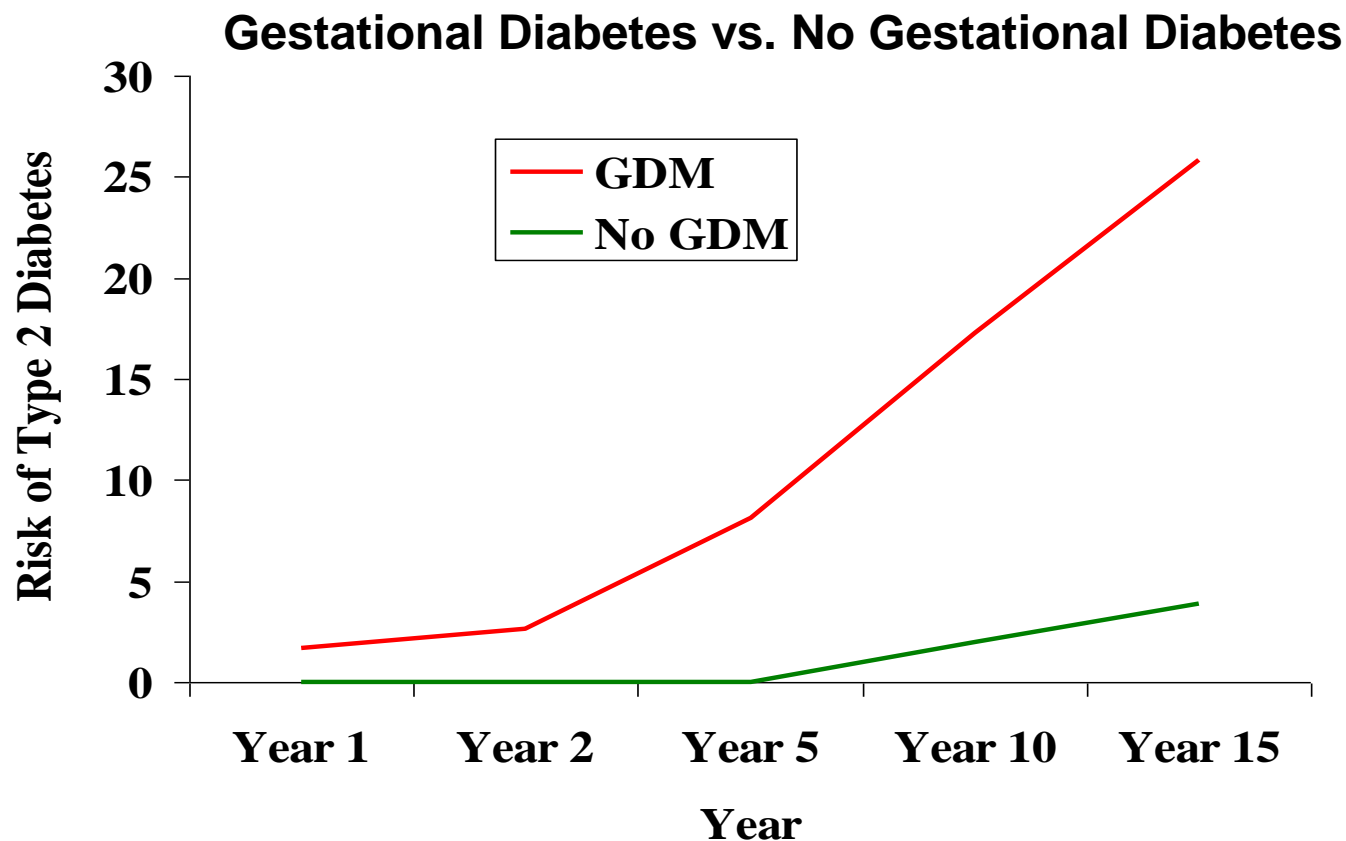
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Why Care About GDM Reporting?

- Complete identification of GDM is important for primary prevention strategies to reduce the incidence of type 2 diabetes
- Improve care for women with gestational diabetes (GDM)
- Identifying populations with disparate risks is important
- Interconception care

Risk of Developing Type 2 Diabetes Within 15 Years of Delivery



Women Can Reduce Their Risk

- There is Ample clinical trial evidence in women with glucose intolerance that type 2 diabetes can be delayed or prevented by lifestyle interventions or modest and perhaps intermittent drug therapy.
- Adults with impaired glucose tolerance who produce a 7% weight loss and increase their physical activity to 150 minutes/week can reduce the incidence of diabetes by 58%*.

*Knowler, WC, Barrett-Conor E, Fowler SE, Hamman, RF, Lachin JM, Walker EA, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. N Engl J Med 2002; 346(6):393-403

Interconception

- Uncontrolled blood sugar in pregnancy increases the risk for birth defects
- Increases risk for stillbirth or miscarriage
- Important to have good control before conception

Healthy People 2010

- Objective 5-8 (Developmental)

Decrease the proportion of pregnant women with gestational diabetes

- Deleted at midcourse review due to insufficient data
- Not included in Healthy People 2020

Background

- Discrepancy in GDM reported between Pregnancy Risk Assessment and Monitoring Survey (PRAMS) and birth certificates
- A four state* collaborative study of charts from 2004 found that GDM was over-reported on PRAMS and underreported on birth certificates

* North Carolina, Oklahoma, Utah, West Virginia

Change to PRAMS Question

Did you have high blood sugar (diabetes) that started *during this pregnancy*?

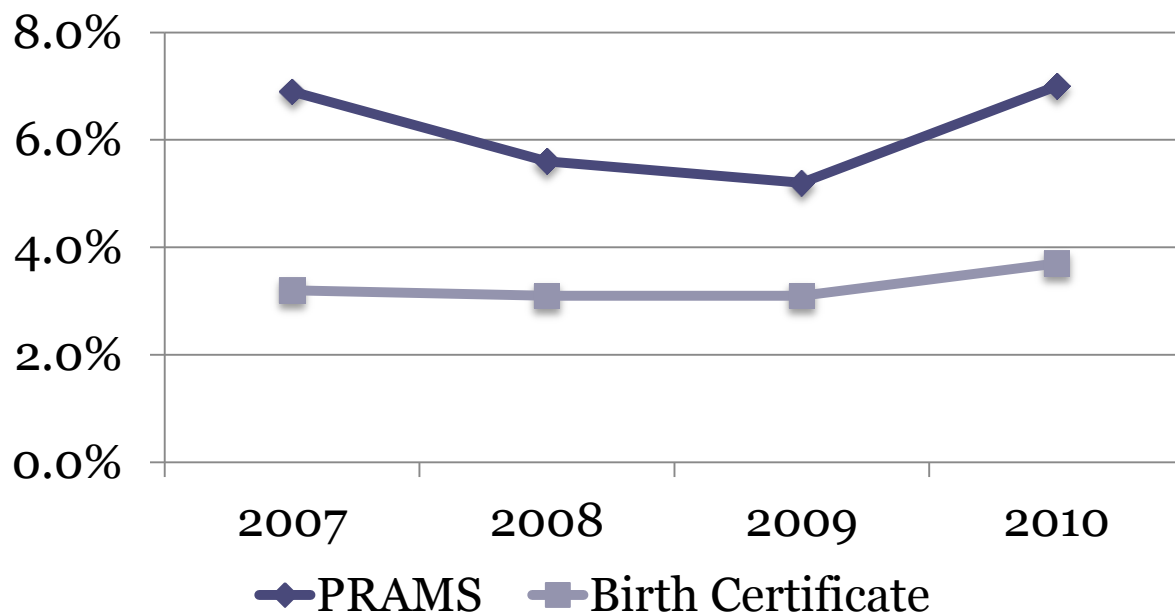
- Phase V Question (2004-2008)

During *your most recent pregnancy*, were you told by a doctor, nurse, or other health care worker that you had gestational diabetes (diabetes that started during *this pregnancy*)?

- Phase VI Question (2009-2016)

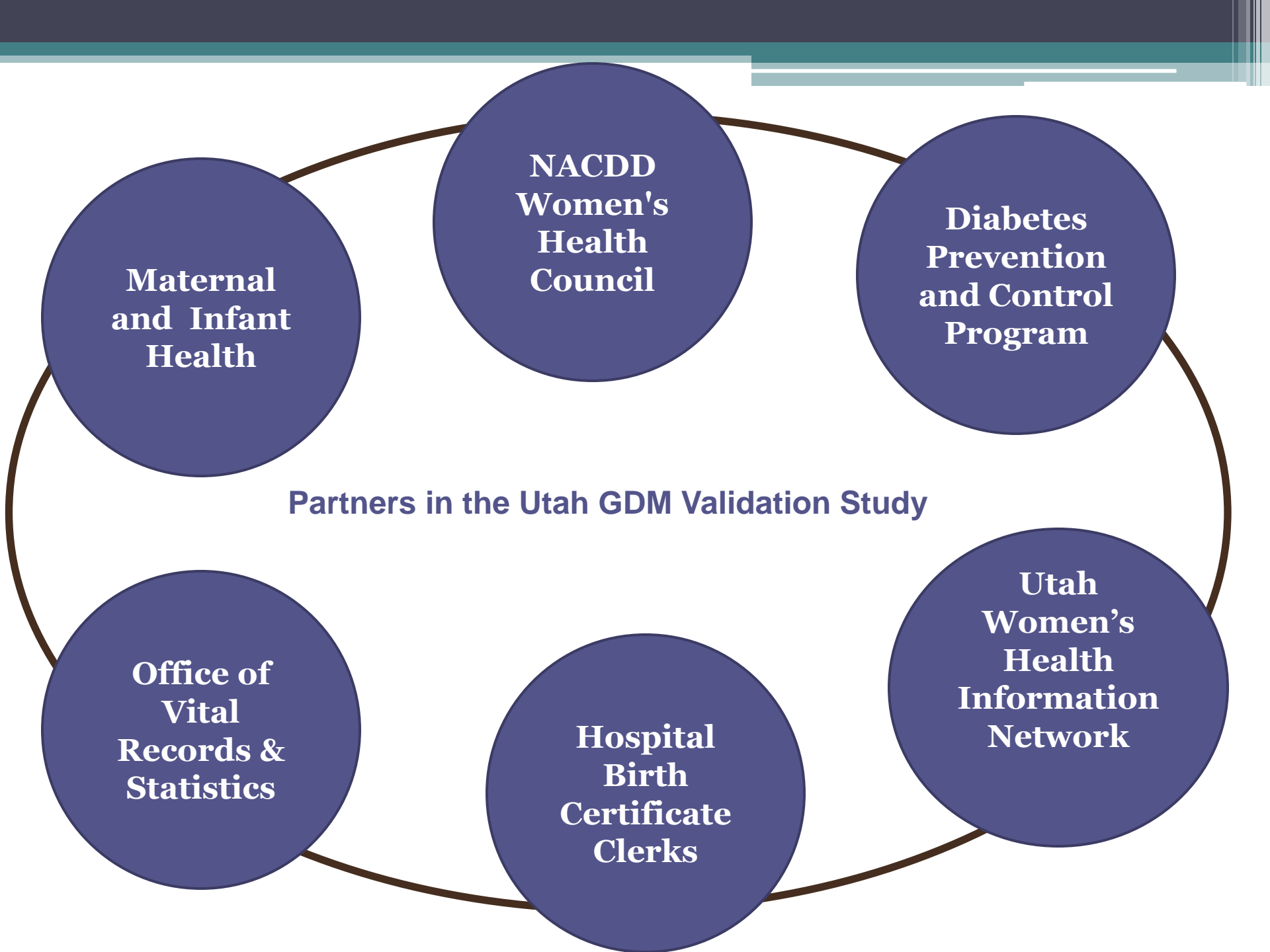
Discrepant Data Continues

- Despite the change in the Phase VI GDM survey questions, discrepancies between birth certificate and PRAMS data continues
- PRAMS data continues to over-report GDM compared to the birth certificate



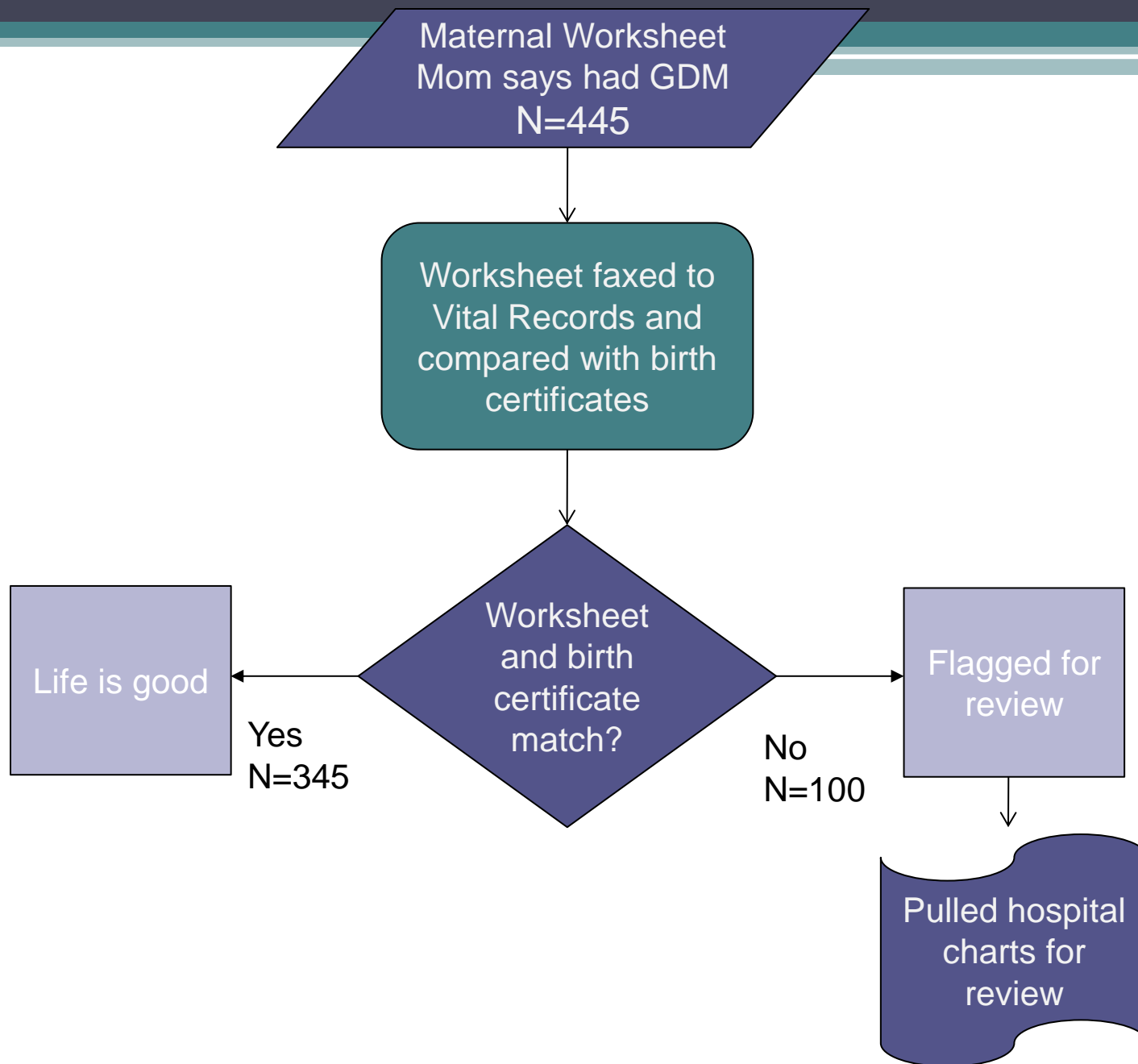
Discrepant Data Continues

- In 2010, the decision was made to carry out another study to identify reasons for the discrepancy and improve GDM reporting

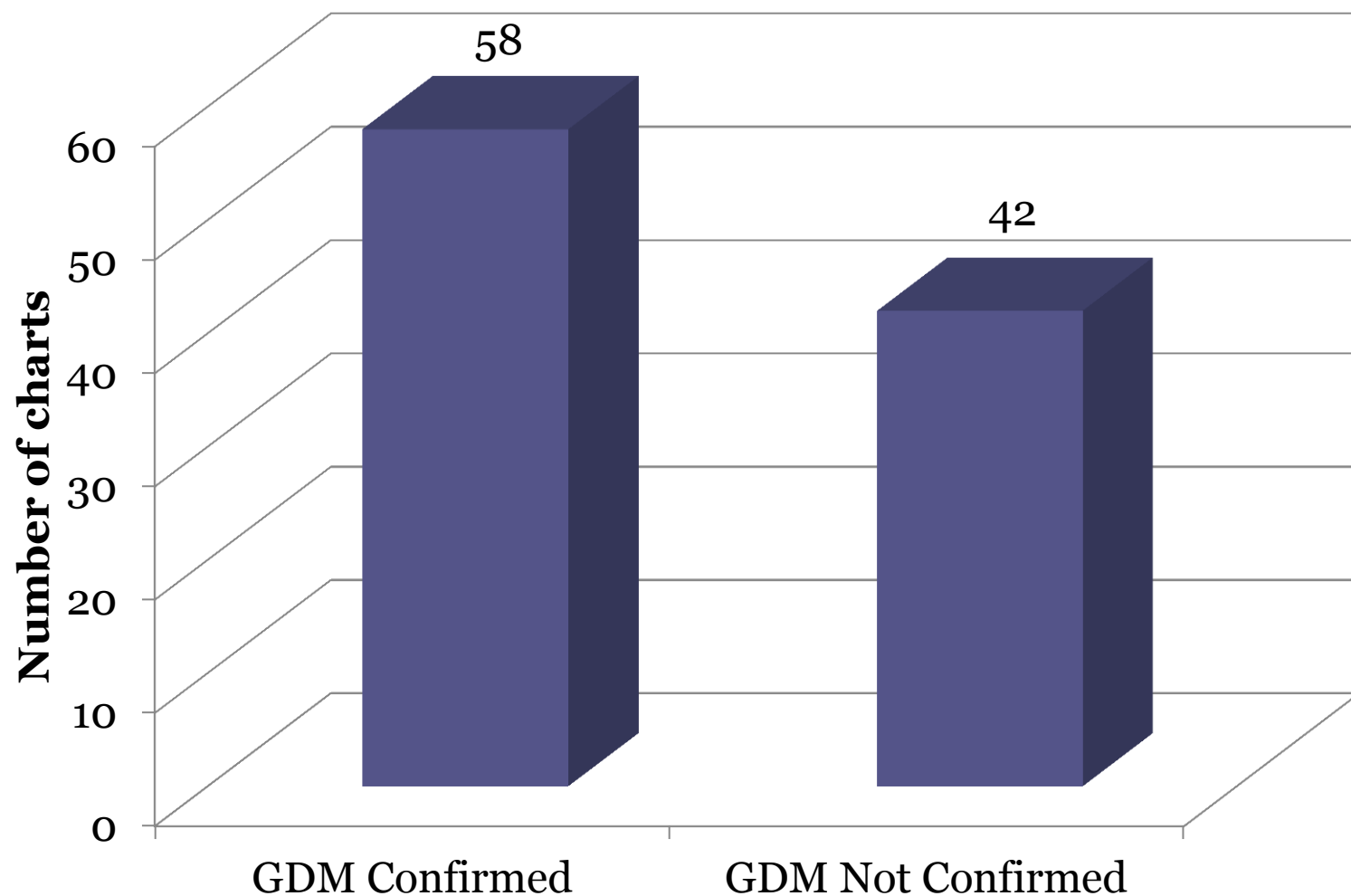


Study Methods

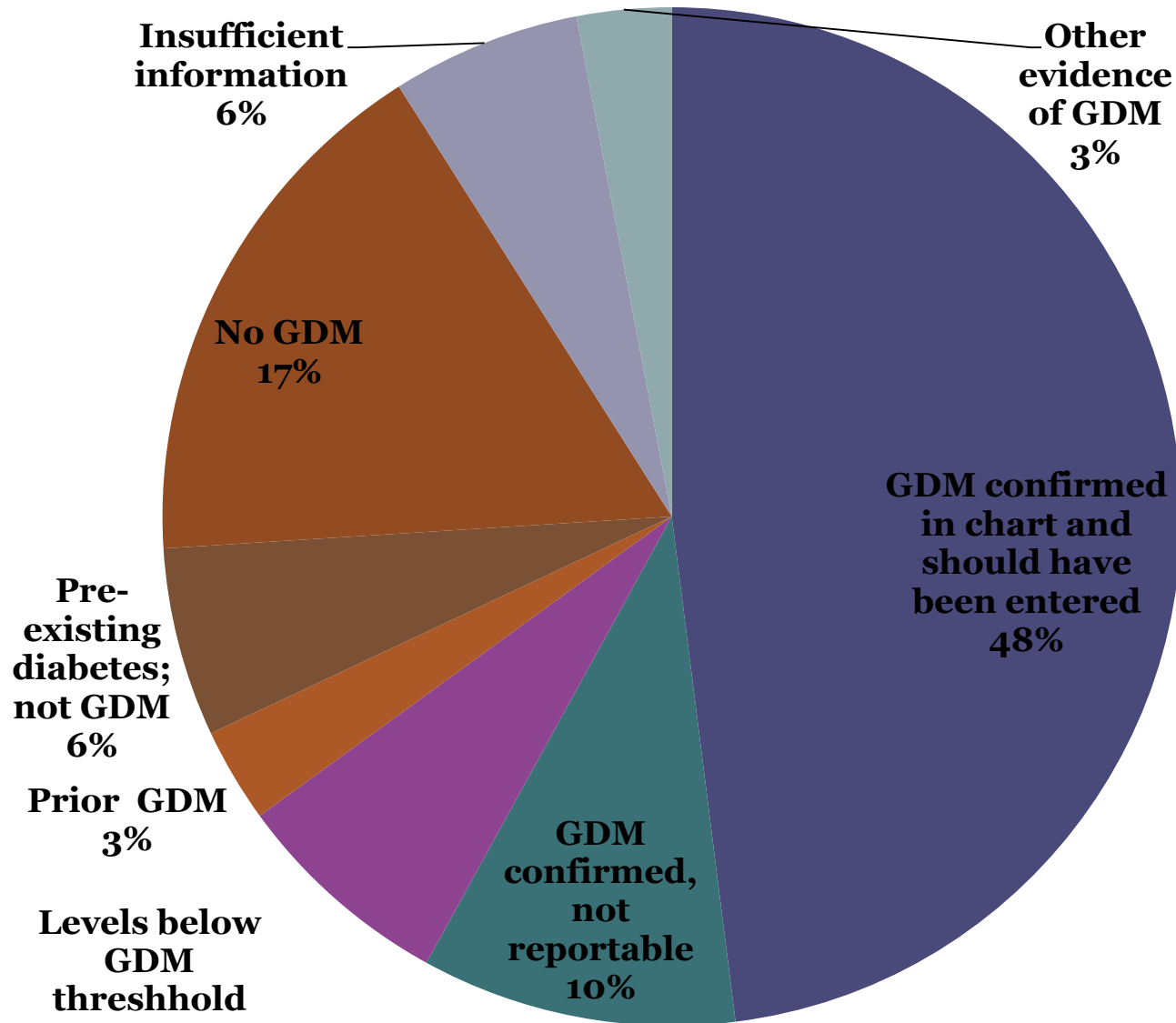
- The 2009 PRAMS question was added to the maternal hospital worksheet
- Hospital clerks were trained to use maternal worksheet with self-reported GDM as trigger to look closely at chart
- Clerks from participating hospitals faxed all maternal worksheets with self-reported GDM to Vital Records. Worksheets compared to reporting on the birth certificate
- Discrepancies were flagged
- Disparate charts were reviewed
- Funding available for 100 chart reviews



Results of Chart Review



Results of Chart Review



Results of Chart Review

- 48 cases where clear evidence that GDM should have been reported on the birth certificate
- 10 cases where GDM was confirmed, but could not be reported on the birth certificate according to VR protocol
- Other issues:
 - Prior history of GDM -- not this pregnancy
 - Pre-existing diabetes -- not GDM
 - High one-hour blood glucose but normal two or three hours screens -- not GDM
 - Mom indicates both preexisting and GDM

Why are we missing cases?

- Clerk not checking box upon data entry
- Prenatal record may not have been in chart when the clerks collected information
- Documentation of GDM on the prenatal charts not sufficient for hospital clerks to abstract
 - Multiple charts had lab values that indicated GDM, but it was not noted in the problem list on the prenatal care record.

ALLERGIES

PARITY

DATE

PROBLEM

PLAN

H/O of PTZ -> del 36+ wk -
 No Mitral Valve Prolapse - Abs in labor M

GESTATIONAL AGE DETERMINANTS

LAB DATA

LMP ☐ Definite ☐ Unsure ☐ Unknown Normal ☐ Yes ☐ No
 Menses Regular ☐ Yes ☐ No On BCP at Conception ☐ Yes ☐ No
 PG Test Positive ____/____/____
 Uterine Size 1st Visit ____ GA ____

Blood Type: Patient A Rh + Father's ____ Rh ____ WBC ____ PLT ____
 HGB / HCT (Result 36.5) 11/3/09 HGB / HCT (Result 37.9) 11/24/09
 Antibody Scr. ☐ Pos ☒ Neg Titer ____ 11/3/09 Antibody Scr. ☐ Pos ☐ Neg Titer ____ DATE

Final EDD ____ Date of Revision ____
 ____/____/____

Rhogam Given ____/____/____ Rhogam Given ____/____/____
 TSH ____ DATE ____
 Rubella ☐ Imm ☒ N-Imm 11/3/09
 Serology ☐ Pos ☒ Neg 11/3/09
 GC Screen ☐ Pos ☐ Neg DATE ____
 GBS Culture ☐ Pos ☐ Neg DATE ____

ULTRASOUND

Date Performed ____ GA by US ____ EDC by US ____ Findings ____
 ____/____/____ ☐ NL ☐ Abnl

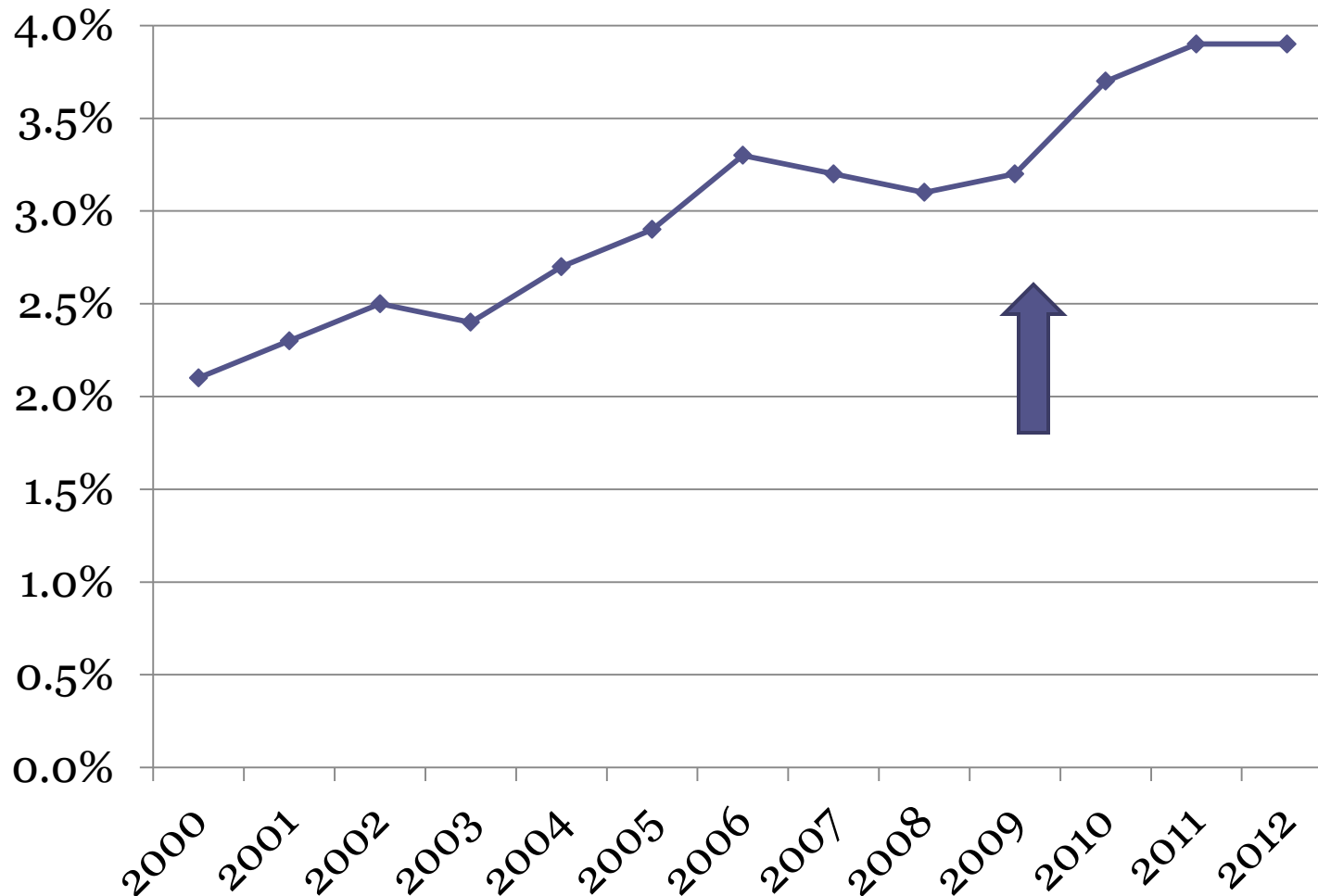
HIV: ☒ Offer ☐ Decline ☐ Pos ☒ Neg 11/3/09
 Maternal Serum Triple Screen ☐ Offer ☐ Decline ☐ Abn ☐ NL DATE ____
 CF Counseling / Screening ☐ Offer ☐ Decline ☐ Pos ☐ Neg DATE ____
 PAP Results ____ DATE ____
 1 HR Glucose Scr. 156 3/11/09 3 HR GTT 68, 144, 167, 156 Pos
 Karotype ____ DATE ____ Other ____

Comments:
 12/10 Complete Placenta Previa!
 1/16/10 Anterior Placental Previa!

Why do moms report they had GDM, but they didn't?

- Mom may have misinterpreted the doctor
 - Provider may have said their blood sugar was high (but it wasn't GDM)

Percentage of Utah Birth Records Indicating Gestational Diabetes by Year, 2000-2012



Follow Up = Birth Certificate System Changes

- Added to the birth certificate data:
 - Mother's GDM self report
 - Clerk's verification of mother's report
- Added edit to system
 - If clerk confirms diagnosis, cannot leave GDM field blank

Follow Up = Birth Certificate System Changes

MOTHER CONFIDENTIAL 2

*Mother Height * ft * in ?

*Mother Weight Prior to Pregnancy * lbs ? *Mother Weight at Delivery * lbs ?

*Mother Weight Gain/Loss * lbs ?

Cigarette Smoking Before and During Pregnancy

Did Mother Smoke ☐ Yes ☒ No ☐ Unknown

Number of Cigarettes per Day ?

*Three Months Before Pregnancy *First Three Months of Pregnancy

*Second Three Months of Pregnancy *Last Three Months of Pregnancy

Is Infant Being Breastfed at Discharge ☐ Check if Yes ?

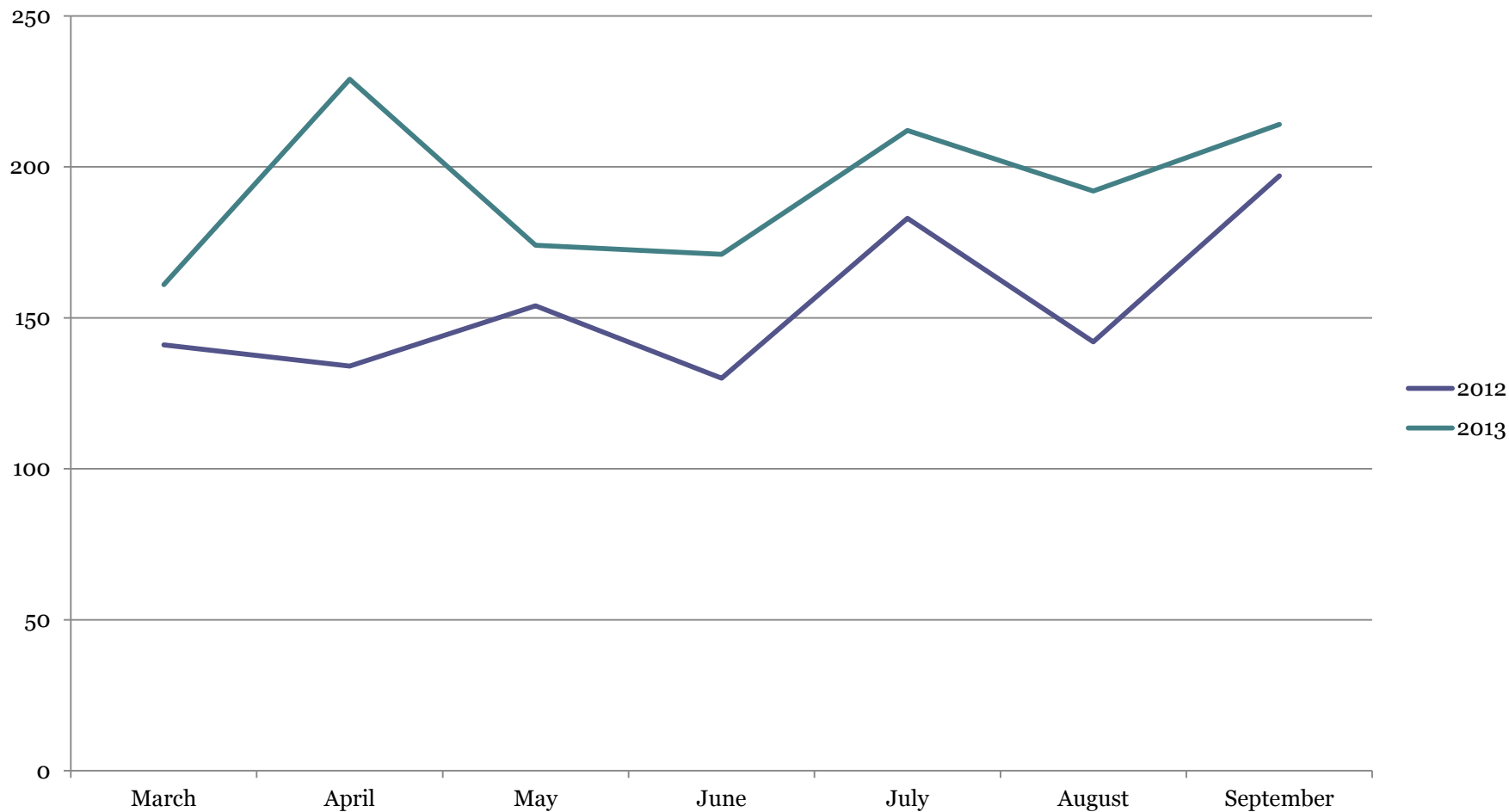
Gestational Diabetes During This Pregnancy (per parental worksheet) ☒ Yes ☐ No ☐ No response/No worksheet

Gestational Diabetes Confirmed in Mother's Chart ☒ Yes ☐ No ☐ No prenatal care record available

Where was GDM Information Found Prenatal Care Record GDM Found Other

Informant Signature ☒ Mother ☐ Father ☐ Other ?

Reported GDM Cases, March-August, 2012 and 2013 Utah Birth Certificates



Prevention of Type 2 Diabetes

- Low documentation of post-partum testing noted during chart reviews. Follow up is critical for women who may have entered pregnancy with Type 2 diabetes
- High need for women with GDM to adopt behavior change to prevent Type 2 diabetes

Utah's Education Campaign

You had Gestational Diabetes during pregnancy...

...you and your child have a lifelong risk for getting type 2 diabetes.

You can lower your risk for type 2 diabetes by choosing a healthy lifestyle.

It is important that you schedule and keep your appointment for a postpartum checkup 6 to 12 weeks after delivery. Be sure the doctor tests your blood sugar level during this visit.

My Postpartum Appointment:

Date _____ Time _____

Put the enclosed magnet on your refrigerator for helpful tips.



Questions for my doctor:

- What is my blood sugar level now?
- What is my risk for diabetes?
- What can I do today to lower my risk for diabetes?
- What can I do today to avoid gestational diabetes in future pregnancies?

What does it mean to have Gestational Diabetes?

- Having gestational diabetes means your blood sugar levels were higher than normal during pregnancy.
- At least half of all women with gestational diabetes develop type 2 diabetes later in life. Type 2 diabetes is the most common type of diabetes and can be prevented with lifestyle changes.
- Your child has a higher than normal chance of developing diabetes.
- It is important to have your blood sugar levels tested after pregnancy to make sure they have returned to normal.

For more information go to:

http://ndep.nih.gov/media/NeverTooEarly_Tipsheet.pdf

If you don't have a postpartum provider and need a referral, call the Baby Your Baby Hotline at 1-800-826-9662



TAKE ACTION NOW TO PREVENT DIABETES!



- **Make and keep your appointment** for your postpartum checkup 6 to 12 weeks after delivery.
- **Get tested** for diabetes at your postpartum checkup, then every 1 to 2 years.
- **Breastfeed** your baby. It may lower your child's risk for type 2 diabetes.
- **Talk to your doctor** if you plan to become pregnant again in the future.
- **Try to get back to the weight you were before your pregnancy, within 6 to 12 months** after your baby is born. Then, if you still weigh too much, work to lose at least 5 to 7 percent (10 to 14 pounds if you weigh 200 pounds) of your body weight slowly, over time, and keep it off.
- **Make healthy food choices** such as fruits and vegetables, fish, lean meats, dry beans and peas, whole grains, and low-fat or skim milk and cheese. **Make water your drink of choice.**
- **Eat smaller portions of healthy foods** to help you reach and stay at a healthy weight.
- **Be active at least 30 minutes, 5 days per week** to help burn calories and lose weight.



National Diabetes Education Program

*It's never too early...
to Prevent Diabetes*

If you had gestational diabetes when you were pregnant, you and your child have a lifelong risk for getting diabetes.

Because of this risk, you need to be tested for diabetes **after your baby is born**, then at least every three years. Reduce your risk by taking small steps for you and your family. If you weigh too much, you can prevent or delay type 2 diabetes if you lose a small amount of weight and become more active.


Your children can lower their risk for type 2 diabetes if they don't become overweight. Serve them healthy foods and help them to be more active.

What is Gestational (jes-TAY-shen-al) Diabetes?

It is a type of diabetes that occurs when women are pregnant. Having it raises their risk for getting diabetes, mostly type 2, for the rest of their lives. African American, Hispanic/Latino, American Indian, and Alaska Native women have the highest risk.

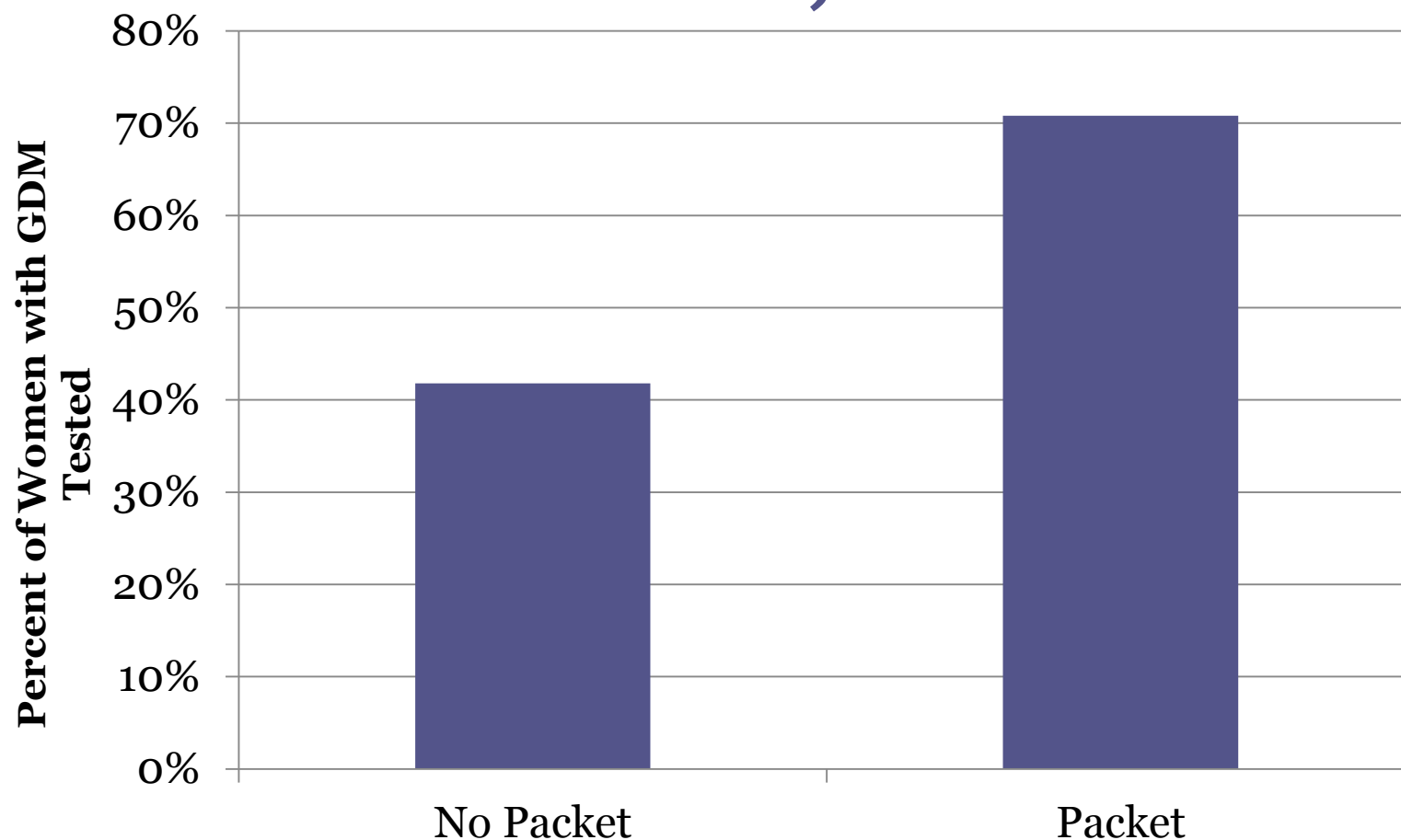
**A Lifetime of Small Steps for
A Healthy Family**

National Diabetes Education Program www.YourDiabetesInfo.org

A woman with dark hair is smiling and holding a young child with pigtails. In the background, there is a framed photograph of a family (a man, a woman, and a child) playing in a grassy field under a blue sky.

http://www.ndep.nih.gov/media/nevertotoearly_tipsheet.pdf

Postpartum Diabetes Screening Among Women with Gestational Diabetes, Utah PRAMS, 2010



PRAMS Data

- Utah PRAMS data, 2009-2011, finds that overall, 38.5% of women with GDM report having their blood sugars tested postpartum
- 15.8% of women tested reported that they were told they had diabetes post delivery
- We still have much work to do



Questions?

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